

What is claimed is:

1. A method of leveling strip material, the method comprising:
 - moving the strip material past a first sensor and a second sensor;
 - receiving a first plurality of readings from the first sensor;
 - receiving a second plurality of readings from the second sensor;
 - detecting a leveling defect based on a difference between the first plurality of readings and the second plurality of readings; and
 - generating an electrical signal to cause a leveler workroll adjustment in response to detecting the leveling defect.
2. A method as defined in claim 1, wherein detecting the leveling defect comprises:
 - determining a first average for the first plurality of readings;
 - determining a second average for the second plurality of readings; and
 - determining a difference between the first average and the second average.
3. A method as defined in claim 1, wherein moving the strip material past the first sensor and the second sensor comprises moving the strip material past a non-contact sensor.
4. A method as defined in claim 1, wherein moving the strip material past the first sensor and the second sensor comprises moving the strip material past a sonic sensor.

5. A method as defined in claim 1, wherein moving the strip material past the first sensor and the second sensor comprises moving the strip material past an optical sensor.

6. A method as defined in claim 1, wherein moving the strip material past the first sensor and the second sensor comprises moving the strip material past a riding needle sensor.

7. A method as defined in claim 1, further comprising determining a distance associated with the strip material based on an input from an encoder.

8. A method as defined in claim 1, wherein causing a leveler workroll adjustment comprises causing a change in a workroll plunge.

9. A method as defined in claim 8, wherein causing the change in the workroll plunge comprises adjusting a hydraulic cylinder operatively connected to a backup bearing.

10. A method as defined in claim 1, wherein causing a leveler workroll adjustment comprises causing a change in a workroll center distance.

11. A method of leveling strip material, the method comprising:
uncoiling the strip material;
detecting at least one of an edge wave and a center buckle associated with the

strip material using a non-contact sensor; and

causing a leveler workroll adjustment in response to detecting the at least one edge wave and center buckle.

12. A method as defined in claim 11, wherein causing a leveler workroll adjustment comprises causing a change in a workroll plunge by adjusting a hydraulic cylinder operatively connected to a backup bearing

13. A method as defined in claim 11, wherein causing a leveler workroll adjustment comprises causing a change in a workroll center distance.

14. A method of leveling strip material, the method comprising:
moving the strip material past a sensor in a feed direction;
detecting a center buckle period associated with the strip material as the material passes the sensor; and
generating an electrical signal to cause a leveler workroll adjustment based on the center buckle period.

15. A method as defined in claim 14, wherein moving the strip material past the sensor in the feed direction comprises moving the strip material past at least one of a sonic sensor and an optical sensor.

16. A method as defined in claim 14, wherein detecting the center buckle period associated with the strip material as the material passes the sensor comprises

determining a distance between a first sensor reading and a second sensor reading.

17. A method as defined in claim 16, wherein determining the distance between the first sensor reading and the second sensor reading comprises receiving a signal from an encoder.

18. A method as defined in claim 14, wherein causing a leveler workroll adjustment comprises causing a change in a workroll plunge.

19. A method as defined in claim 18, wherein causing the change in the workroll plunge comprises adjusting a hydraulic cylinder operatively connected to a backup bearing.

20. A method as defined in claim 14, wherein causing a leveler workroll adjustment comprises causing a change in a workroll center distance.

21. A method of certifying strip material, the method comprising:
moving the strip material past a sensor in a feed direction;
detecting a leveling defect value associated with the strip material; and
generating an electrical signal indicative of a certification level.

22. A method as defined in claim 21, further comprising marking the strip material with an indication of the certification level.

23. A method as defined in claim 22, wherein marking the strip material comprises placing a sticker on the strip material.

24. A method as defined in claim 22, wherein the electrical signal indicative of the certification causes a machine to mark the strip material.

25. A method as defined in claim 22, wherein the electrical signal indicative of the certification causes a human to mark the strip material.

26. A method as defined in claim 22, wherein the electrical signal indicative of the certification causes a display device to generate an indication of the certification.

27. A method as defined in claim 21, wherein moving the strip material past the sensor in the feed direction comprises moving the strip material past a sonic sensor.

28. A method as defined in claim 21, wherein moving the strip material past the sensor in the feed direction comprises moving the strip material past an optical sensor.

29. An apparatus to level a strip material, the apparatus comprising:

a leveler roller structured to level a strip material;

a first sensor positioned to measure a leveling defect associated with the strip material;

a second sensor positioned to measure the leveling defect associated with the strip material; and

a controller operatively coupled to the leveler roller, the first sensor, and the second sensor, the controller to generate an electrical signal in response to detecting the leveling defect.

30. An apparatus as defined in claim 29, further comprising a hydraulic cylinder operatively coupled to the controller to cause an adjustment to the leveler roller in response to detecting the leveling defect.

31. An apparatus as defined in claim 30, further comprising a backup bearing operatively coupled to the hydraulic cylinder and the leveler roller, wherein the backup bearing causes a change in a plunge associated with the leveler roller.

32. An apparatus as defined in claim 29, wherein the first sensor comprises a sonic sensor.

33. An apparatus as defined in claim 29, wherein the first sensor comprises an optical sensor.

34. An apparatus as defined in claim 29, further comprising an encoder operatively coupled to the controller, wherein the controller is structured to determine

a distance between a first sensor reading and a second sensor reading using the encoder.

35. An apparatus as defined in claim 29, wherein the controller is structured to cause the strip material to be marked with a leveling certification.

36. An apparatus as defined in claim 35, further comprising a printer operatively coupled to the controller, the printer to print a certification level.

37. An apparatus as defined in claim 35, further comprising a display device operatively coupled to the controller, the display device to display a certification level.